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Realization of multiple-output biquadratic filters using current differencing buffered amplifiers

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Abstract

In this paper, multiple-output multifunctional biquadratic filters using current differencing buffered amplifiers (CDBAs) as active elements are presented. The proposed circuit configuration is mainly composed of the CDBA-based cross-coupled feedback configuration and the simple CDBA-based voltage substractor. By an appropriate choice of virtually grounded passive components, the configuration can simultaneously realize lowpass, highpass, bandpass, bandstop and allpass voltage transfer functions, all at low resistance outputs. The natural angular frequency and the quality factor can orthogonally controllable. Experimental results verifying the theoretical analysis are also given.

Keywords:

Current differencing buffered amplifier (CDBA) Biquadratic filter Voltage-mode circuit

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